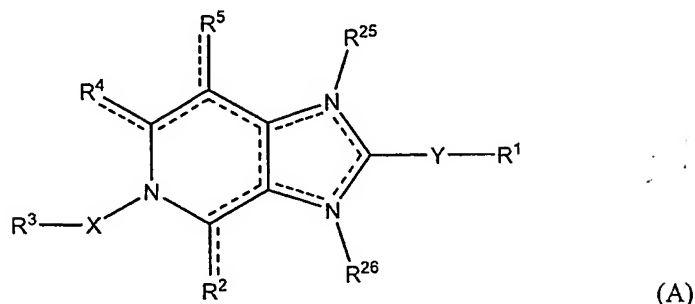


5

We claim:

1. A compound having the general formula (A),



10 wherein:

the dotted lines represent an optional double bond, provided that no two double bonds are adjacent to one another, and that the dotted lines represent at least 3, optionally 4 double bonds;

R<sup>1</sup> is selected from hydrogen, aryl, heterocyclic, C<sub>1</sub>-C<sub>10</sub> alkoxy,

- 15 C<sub>1</sub>-C<sub>10</sub> thioalkyl, C<sub>1</sub>-C<sub>10</sub> alkyl-amino, C<sub>1</sub>-C<sub>10</sub> dialkyl-amino, C<sub>3</sub>-<sub>10</sub> cycloalkyl, C<sub>4</sub>-<sub>10</sub> cycloalkenyl, and C<sub>4</sub>-<sub>10</sub> cycloalkynyl, wherein each are optionally substituted with 1 or more R<sup>6</sup>;

Y is selected from single bond, O, S(O)<sub>m</sub>, NR<sup>11</sup>, or C<sub>1</sub>-<sub>10</sub> alkylene,

C<sub>2</sub>-<sub>10</sub> alkenylene, C<sub>2</sub>-<sub>10</sub> alkynylene, wherein each may optionally include 1 to 3

- 20 heteroatoms selected from O, S or N;

R<sup>2</sup> and R<sup>4</sup> are independently selected from hydrogen, C<sub>1</sub>-<sub>18</sub> alkyl, C<sub>2</sub>-<sub>18</sub> alkenyl,

C<sub>2</sub>-<sub>18</sub> alkynyl, C<sub>1</sub>-<sub>18</sub> alkoxy, C<sub>1</sub>-<sub>18</sub> alkylthio, halogen, -OH, -CN, -NO<sub>2</sub>, -NR<sup>7</sup>R<sup>8</sup>,

haloalkyloxy, haloalkyl, -C(=O)R<sup>9</sup>, -C(=S)R<sup>9</sup>, SH, aryl, aryloxy, arylthio, arylalkyl,

- 25 C<sub>1</sub>-<sub>18</sub> hydroxyalkyl, C<sub>3</sub>-<sub>10</sub> cycloalkyl, C<sub>3</sub>-<sub>10</sub> cycloalkyloxy, C<sub>3</sub>-<sub>10</sub> cycloalkylthio, C<sub>3</sub>-<sub>10</sub> cycloalkenyl, C<sub>7</sub>-<sub>10</sub> cycloalkynyl, or heterocyclic, provided that when one of R<sup>25</sup> or R<sup>26</sup> is present, then either R<sup>2</sup> or R<sup>4</sup> is selected from (=O), (=S), and =NR<sup>27</sup>;

X is selected from C<sub>1</sub>-C<sub>10</sub> alkylene, C<sub>2</sub>-<sub>10</sub> alkenylene or C<sub>2</sub>-<sub>10</sub> alkynylene, where each may include one or more heteroatoms selected from O, S, or N, provided any such heteroatom is not adjacent to the N in the ring;

- 30 m is any integer from 0 to 2;

5  $R^3$  is selected from aryl, aryloxy, arylthio, cycloalkyl, cycloalkenyl, cycloalkynyl, aryl- $N(R^{10})$ -, or heterocyclic, where each said substituent may be optionally substituted with at least one  $R^{17}$ , provided that for cycloalkenyl the double bond is not adjacent to a nitrogen, and provided  $R^3$  M-Q- is not biphenyl;

$R^5$  is selected from hydrogen;  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl,  $C_{1-18}$  alkoxy,  $C_{1-18}$  alkylthio, halogen, -OH, -CN, -NO<sub>2</sub>, -NR<sup>7</sup>R<sup>8</sup>, haloalkyloxy, haloalkyl, 10 -C(=O)R<sup>9</sup>, -C(=O)OR<sup>9</sup>, -C(=S)R<sup>9</sup>, SH, aryl, aryloxy, arylthio, arylalkyl,  $C_{1-18}$  hydroxyalkyl,  $C_{3-10}$  cycloalkyl,  $C_{3-10}$  cycloalkyloxy,  $C_{3-10}$  cycloalkylthio,  $C_{3-10}$  cycloalkenyl,  $C_{7-10}$  cycloalkynyl, or heterocyclic;

$R^6$  is selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl,  $C_{1-18}$  alkoxy,  $C_{1-18}$  alkylthio,  $C_{1-18}$  alkylsulfoxide,  $C_{1-18}$  alkylsulfone,  $C_{1-18}$  halo-alkyl,  $C_{2-18}$  halo-alkenyl,  $C_{2-18}$  halo-alkynyl,  $C_{1-18}$  halo-alkoxy,  $C_{1-18}$  halo-alkylthio,  $C_{3-10}$  cycloalkyl,  $C_{3-10}$  cycloalkenyl,  $C_{7-10}$  cycloalkynyl, halogen, OH, CN, cyanoalkyl, 15 -CO<sub>2</sub>R<sup>18</sup>, NO<sub>2</sub>, -NR<sup>7</sup>R<sup>8</sup>,  $C_{1-18}$  haloalkyl, C(=O)R<sup>18</sup>, C(=S)R<sup>18</sup>, SH, aryl, aryloxy, arylthio, arylsulfoxide, arylsulfone, arylsulfonamide, aryl( $C_{1-18}$ )alkyl, aryl( $C_{1-18}$ )alkyloxy, aryl( $C_{1-18}$ )alkylthio, heterocyclic,  $C_{1-18}$  hydroxyalkyl, where each may be optionally substituted with at least 1  $R^{19}$ ;

$R^7$  and  $R^8$  are independently selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{1-18}$  alkenyl, aryl,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl, heterocyclic, -C(=O)R<sup>12</sup>, -C(=S)R<sup>12</sup>, an amino acid residue linked through a carboxyl group thereof, or where  $R^7$  and  $R^8$  25 together with the nitrogen form a heterocyclic;

$R^9$  and  $R^{18}$  are independently selected from hydrogen, OH,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl,  $C_{1-18}$  alkoxy, -NR<sup>15</sup>R<sup>16</sup>, aryl, an amino acid residue linked through an amino group of the amino acid, CH<sub>2</sub>OCH(=O)R<sup>9a</sup>, or 30 CH<sub>2</sub>OC(=O)OR<sup>9a</sup> where  $R^{9a}$  is  $C_1$ - $C_{12}$  alkyl,  $C_6$ - $C_{20}$  aryl,  $C_6$ - $C_{20}$  alkylaryl or  $C_6$ - $C_{20}$  aralkyl;

$R^{10}$  and  $R^{11}$  are independently selected from the group consisting of hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl, aryl, -C(=O)R<sup>12</sup>, heterocyclic, or an amino acid residue;

$R^{12}$  is selected from the group consisting of hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl, aryl,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl, or an amino acid residue; 35

5  $R^{15}$  and  $R^{16}$  are independently selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl, aryl,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl, or an amino acid residue;

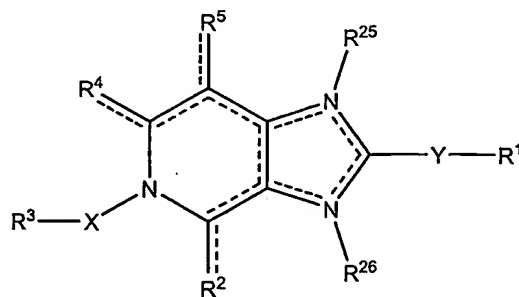
$R^{17}$  is independently M-Q- wherein M is a ring optionally substituted with 1 or more  $R^{19}$ , and Q is a bond or a linking group connecting M to  $R^3$  having 1 to 10 atoms and optionally substituted with 1 or more  $R^{19}$ ;

$R^{19}$  is selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl,  $C_{1-18}$  alkoxy,  $C_{2-18}$  alkenyloxy,  $C_{2-18}$  alkynyloxy,  $C_{1-18}$  alkylthio,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl,  $C_{4-10}$  cycloalkynyl, halogen, -OH, -CN, cyanoalkyl, -NO<sub>2</sub>, -NR<sup>20</sup>R<sup>21</sup>,  $C_{1-18}$  haloalkyl,  $C_{1-18}$  haloalkyloxy, -C(=O)R<sup>18</sup>, -C(=O)OR<sup>18</sup>, -OalkenylC(=O)OR<sup>18</sup>,  
 15 -OalkylC(=O)NR<sup>20</sup>R<sup>21</sup>, -OalkylOC(=O)R<sup>18</sup>, -C(=S)R<sup>18</sup>, SH, -C(=O)N(C<sub>1-6</sub> alkyl), -N(H)S(O)(O)(C<sub>1-6</sub> alkyl), aryl, heterocyclic,  $C_{1-18}$ alkylsulfone, arylsulfoxide, arylsulfonamide, aryl(C<sub>1-18</sub>)alkyloxy, aryloxy, aryl(C<sub>1-18</sub> alkyl)oxy, arylthio, aryl(C<sub>1-18</sub>)alkylthio or aryl(C<sub>1-18</sub>)alkyl, where each may be optionally substituted with 1 or more =O, NR<sup>20</sup>R<sup>21</sup>, CN,  $C_{1-18}$  alkoxy, heterocyclic,  $C_{1-18}$  haloalkyl, heterocyclic alkyl,  
 20 heterocyclic connected to  $R^{17}$  by alkyl, alkoxyalkoxy or halogen;

$R^{20}$  and  $R^{21}$  are independently selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl, aryl,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl, -C(=O)R<sup>12</sup>, or -C(=S)R<sup>12</sup>;

$R^{27}$  is selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{3-10}$  cycloalkyl, ( $C_{3-10}$  cycloalkyl)-  
 25  $C_{1-6}$  alkyl, aryl, and aryl  $C_{1-18}$  alkyl, and salts, tautomers, isomers and solvates thereof.

2. A compound having the general formula (A),



(A)

wherein:

5 the dotted lines represent an optional double bond, provided that no two double bonds are adjacent to one another, and that the dotted lines represent at least 3, optionally 4 double bonds;

$R^1$  is selected from hydrogen, aryl, heterocyclic,  $C_{1-10}$  alkoxy,  $C_{1-10}$  thioalkyl,  $C_{1-10}$  alkyl-amino,  $C_{1-10}$  dialkyl-amino,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl, and  $C_{4-10}$  cycloalkynyl, wherein each are optionally substituted with 1  
10 or more  $R^6$ ;

Y is selected from single bond, O,  $S(O)_m$ ,  $NR^{11}$ , or  $C_{1-10}$  alkylene,  $C_{2-10}$  alkenylene,  $C_{2-10}$  alkynylene, wherein each may optionally include 1 to 3 heteroatoms selected from O, S or N;

15  $R^2$  and  $R^4$  are independently selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl,  $C_{1-18}$  alkoxy,  $C_{1-18}$  alkylthio, halogen, -OH, -CN, -NO<sub>2</sub>, -NR<sup>7</sup>R<sup>8</sup>, haloalkoxy, haloalkyl, -C(=O)R<sup>9</sup>, -C(=S)R<sup>9</sup>, SH, aryl, aryloxy, arylthio, arylalkyl,  $C_{1-18}$  hydroxyalkyl,  $C_{3-10}$  cycloalkyl,  $C_{3-10}$  cycloalkyloxy,  $C_{3-10}$  cycloalkylthio,  $C_{3-10}$  cycloalkenyl,  $C_{7-10}$  cycloalkynyl, or heterocyclic, provided that when one of  $R^{25}$  or  
20  $R^{26}$  is present, then either  $R^2$  or  $R^4$  is selected from (=O), (=S), and =NR<sup>27</sup>;

X is selected from  $C_{1-10}$  alkylene,  $C_{2-10}$  alkenylene or  $C_{2-10}$  alkynylene, where each may include one or more heteroatoms selected from O, S, or N, provided any such heteroatom is not adjacent to the N in the ring;

m is any integer from 0 to 2;

25  $R^3$  is a heterocycle optionally substituted with at least one  $R^{17}$  provided, however, that  $R^3$  optionally substituted with at least one  $R^{17}$  is not pyridinyl or 5-chlorothieryl, provided that  $R^3$ -MQ is not biphenyl;

$R^5$  is selected from hydrogen;  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl,  $C_{1-18}$  alkoxy,  $C_{1-18}$  alkylthio, halogen, -OH, -CN, -NO<sub>2</sub>, -NR<sup>7</sup>R<sup>8</sup>, haloalkoxy, haloalkyl,   
30 -C(=O)R<sup>9</sup>, -C(=O)OR<sup>9</sup>, -C(=S)R<sup>9</sup>, SH, aryl, aryloxy, arylthio, arylalkyl,  $C_{1-18}$  hydroxyalkyl,  $C_{3-10}$  cycloalkyl,  $C_{3-10}$  cycloalkyloxy,  $C_{3-10}$  cycloalkylthio,  $C_{3-10}$  cycloalkenyl,  $C_{7-10}$  cycloalkynyl, or heterocyclic;

$R^6$  is selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl, heterocyclic,  $C_{1-18}$  alkoxy,  $C_{1-18}$  alkylthio,  $C_{1-18}$  alkylsulfoxide,  $C_{1-18}$  alkylsulfone,  $C_{1-18}$  halo-alkyl,  $C_{2-18}$  halo-alkenyl,  $C_{2-18}$  halo-alkynyl,  $C_{1-18}$  halo-alkoxy,  $C_{1-18}$  halo-alkylthio,  $C_{3-10}$  cycloalkyl,  $C_{3-10}$  cycloalkenyl,  $C_{7-10}$  cycloalkynyl, halogen, OH, CN,  
35

5 cyanoalkyl,  $-\text{CO}_2\text{R}^{18}$ ,  $\text{NO}_2$ ,  $-\text{NR}^7\text{R}^8$ ,  $\text{C}_{1-18}$  haloalkyl,  $\text{C}(=\text{O})\text{R}^{18}$ ,  $\text{C}(=\text{S})\text{R}^{18}$ , SH, aryl, aryloxy, arylthio, arylsulfoxide, arylsulfone, arylsulfonamide, aryl( $\text{C}_{1-18}$ )alkyl, aryl( $\text{C}_{1-18}$ )alkyloxy, aryl( $\text{C}_{1-18}$ )alkylthio,  $\text{C}_{1-18}$  hydroxyalkyl, where each may be optionally substituted with at least 1  $\text{R}^{19}$ ;

$\text{R}^7$  and  $\text{R}^8$  are independently selected from hydrogen,  $\text{C}_{1-18}$  alkyl,  $\text{C}_{1-18}$  alkenyl, 10 aryl,  $\text{C}_{3-10}$  cycloalkyl,  $\text{C}_{4-10}$  cycloalkenyl, heterocyclic,  $-\text{C}(=\text{O})\text{R}^{12}$ ,  $-\text{C}(=\text{S})\text{R}^{12}$ , an amino acid residue linked through a carboxyl group thereof, or where  $\text{R}^7$  and  $\text{R}^8$  together with the nitrogen form a heterocyclic;

$\text{R}^9$  and  $\text{R}^{18}$  are independently selected from hydrogen, OH,  $\text{C}_{1-18}$  alkyl,  $\text{C}_{2-18}$  alkenyl,  $\text{C}_{3-10}$  cycloalkyl,  $\text{C}_{4-10}$  cycloalkenyl,  $\text{C}_{1-18}$  alkoxy,  $-\text{NR}^{15}\text{R}^{16}$ , aryl, an amino 15 acid residue linked through an amino group of the amino acid,  $\text{CH}_2\text{OCH}(=\text{O})\text{R}^{9a}$ , or  $\text{CH}_2\text{OC}(=\text{O})\text{OR}^{9a}$  where  $\text{R}^{9a}$  is  $\text{C}_1\text{-C}_{12}$  alkyl,  $\text{C}_6\text{-C}_{20}$  aryl,  $\text{C}_6\text{-C}_{20}$  alkylaryl or  $\text{C}_6\text{-C}_{20}$  aralkyl;

$\text{R}^{10}$  and  $\text{R}^{11}$  are independently selected from the group consisting of hydrogen,  $\text{C}_{1-18}$  alkyl,  $\text{C}_{2-18}$  alkenyl,  $\text{C}_{3-10}$  cycloalkyl,  $\text{C}_{4-10}$  cycloalkenyl, aryl,  $-\text{C}(=\text{O})\text{R}^{12}$ , 20 heterocyclic, or an amino acid residue;

$\text{R}^{12}$  is selected from the group consisting of hydrogen,  $\text{C}_{1-18}$  alkyl,  $\text{C}_{2-18}$  alkenyl, aryl,  $\text{C}_{3-10}$  cycloalkyl,  $\text{C}_{4-10}$  cycloalkenyl, or an amino acid residue;

$\text{R}^{15}$  and  $\text{R}^{16}$  are independently selected from hydrogen,  $\text{C}_{1-18}$  alkyl,  $\text{C}_{2-18}$  alkenyl,  $\text{C}_{2-18}$  alkynyl, aryl,  $\text{C}_{3-10}$  cycloalkyl,  $\text{C}_{4-10}$  cycloalkenyl, or an amino acid 25 residue;

$\text{R}^{17}$  is independently selected from the group consisting of hydrogen,  $\text{C}_{1-18}$  alkyl,  $\text{C}_{2-18}$  alkenyl,  $\text{C}_{2-18}$  alkynyl,  $\text{C}_{1-18}$  alkoxy,  $\text{C}_{1-18}$  alkylthio,  $\text{C}_{1-18}$  alkylsulfoxide,  $\text{C}_{1-18}$  alkylsulfone,  $\text{C}_{1-18}$  halogenated alkyl,  $\text{C}_{2-18}$  halogenated alkenyl,  $\text{C}_{2-18}$  halogenated alkynyl,  $\text{C}_{1-18}$  halogenated alkoxy,  $\text{C}_{1-18}$  halogenated alkylthio,  $\text{C}_{3-10}$  30 cycloalkyl,  $\text{C}_{3-10}$  cycloalkenyl,  $\text{C}_{7-10}$  cycloalkynyl, halogen, OH, CN,  $\text{CO}_2\text{H}$ ,  $\text{CO}_2\text{R}^{18}$ ,  $\text{NO}_2$ ,  $\text{NR}^7\text{R}^8$ , haloalkyl,  $\text{C}(=\text{O})\text{R}^{18}$ ,  $\text{C}(=\text{S})\text{R}^{18}$ , SH, aryl, aryloxy, arylthio, arylsulfoxide, arylsulfone, arylsulfonamide, arylalkyl, arylalkyloxy, arylalkylthio, heterocyclic,  $\text{C}_{1-18}$  hydroxyalkyl, where each of said aryl, aryloxy, arylthio, arylsulfoxide, arylsulfone, arylsulfonamide, arylalkyl, arylalkyloxy, arylalkylthio, 35 heterocycle, or  $\text{C}_{1-18}$  hydroxyalkyl is optionally substituted with 1 or more  $\text{R}^{19}$ ;

5  $R^{19}$  is selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl,  $C_{1-18}$  alkoxy,  $C_{2-18}$  alkenyloxy,  $C_{2-18}$  alkynyloxy,  $C_{1-18}$  alkylthio,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl,  $C_{4-10}$  cycloalkynyl, halogen, -OH, -CN, cyanoalkyl, -NO<sub>2</sub>, -NR<sup>20</sup>R<sup>21</sup>,  $C_{1-18}$  haloalkyl,  $C_{1-18}$  haloalkyloxy, -C(=O)R<sup>18</sup>, -C(=O)OR<sup>18</sup>, -OalkenylC(=O)OR<sup>18</sup>, -OalkylC(=O)NR<sup>20</sup>R<sup>21</sup>, -OalkylOC(=O)R<sup>18</sup>, -C(=S)R<sup>18</sup>, SH, -C(=O)N( $C_{1-6}$  alkyl),  
 10 -N(H)S(O)(O)( $C_{1-6}$  alkyl), aryl, heterocyclic,  $C_{1-18}$ alkylsulfone, arylsulfoxide, arylsulfonamide, aryl( $C_{1-18}$ )alkyloxy, aryloxy, aryl( $C_{1-18}$  alkyl)oxy, arylthio, aryl( $C_{1-18}$ )alkylthio or aryl( $C_{1-18}$ )alkyl, where each may be optionally substituted with 1 or more =O, NR<sup>20</sup>R<sup>21</sup>, CN,  $C_{1-18}$  alkoxy, heterocyclic,  $C_{1-18}$  haloalkyl, heterocyclic alkyl, heterocyclic connected to R<sup>17</sup> by alkyl, alkoxyalkoxy or halogen;

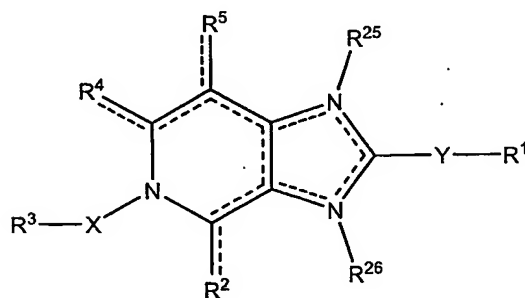
15  $R^{20}$  and  $R^{21}$  are independently selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl, aryl,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl, -C(=O)R<sup>12</sup>, carboxylester-substituted heterocyclic or -C(=S)R<sup>12</sup>;

$R^{25}$  and  $R^{26}$  are not present, or are independently selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{3-10}$  cycloalkyl, aryl, heterocyclic, where each is optionally independently  
 20 substituted with 1 to 4 of  $C_{1-6}$  alkyl,  $C_{1-6}$  alkoxy, halo, CH<sub>2</sub>OH, benzyloxy, and OH;  
 and

$R^{27}$  is selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{3-10}$  cycloalkyl, ( $C_{3-10}$  cycloalkyl)- $C_{1-6}$  alkyl, aryl, and aryl  $C_{1-18}$  alkyl, and  
 the salts, tautomers, isomers and solvates thereof.

25

3. A compound having the general formula (A),



(A)

wherein:

5 the dotted lines represent an optional double bond, provided that no two double bonds are adjacent to one another, and that the dotted lines represent at least 3, optionally 4 double bonds;

$R^1$  is selected from hydrogen, aryl, heterocyclic,  $C_1$ - $C_{10}$  alkoxy,  $C_1$ - $C_{10}$  thioalkyl,  $C_1$ - $C_{10}$  alkyl-amino,  $C_1$ - $C_{10}$  dialkyl-amino,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl, and  $C_{4-10}$  cycloalkynyl, wherein each are optionally substituted with 1  
10 or more  $R^6$ ;

$Y$  is selected from single bond, O,  $S(O)_m$ ,  $NR^{11}$ , or  $C_{1-10}$  alkylene,  $C_{2-10}$  alkenylene,  $C_{2-10}$  alkynylene, wherein each may optionally include 1 to 3 heteroatoms selected from O, S or N;

15  $R^2$  and  $R^4$  are independently selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl,  $C_{1-18}$  alkoxy,  $C_{1-18}$  alkylthio, halogen, -OH, -CN, -NO<sub>2</sub>, - $NR^7R^8$ , haloalkyloxy, haloalkyl, -C(=O) $R^9$ , -C(=S) $R^9$ , SH, aryl, aryloxy, arylthio, arylalkyl,  $C_{1-18}$  hydroxyalkyl,  $C_{3-10}$  cycloalkyl,  $C_{3-10}$  cycloalkyloxy,  $C_{3-10}$  cycloalkylthio,  $C_{3-10}$  cycloalkenyl,  $C_{7-10}$  cycloalkynyl, or heterocyclic, provided that when one of  $R^{25}$  or  
20  $R^{26}$  is present, then either  $R^2$  or  $R^4$  is selected from (=O), (=S), and = $NR^{27}$ ;

$X$  is selected from  $C_1$ - $C_{10}$  alkylene,  $C_{2-10}$  alkenylene or  $C_{2-10}$  alkynylene, where each may include one or more heteroatoms selected from O, S, or N, provided any such heteroatom is not adjacent to the N in the ring;

$m$  is any integer from 0 to 2;

25  $R^3$  is a heterocycle optionally substituted with at least one  $R^{17}$ , provided  $R^3$ -M-Q is not biphenyl;

$R^5$  is selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl,  $C_{1-18}$  alkoxy,  $C_{1-18}$  alkylthio, halogen, -OH, -CN, -NO<sub>2</sub>, - $NR^7R^8$ , haloalkyloxy, haloalkyl, -C(=O) $R^9$ , -C(=O)OR<sup>9</sup>, -C(=S) $R^9$ , SH, aryl, aryloxy, arylthio, arylalkyl,  $C_{1-18}$   
30 hydroxyalkyl,  $C_{3-10}$  cycloalkyl,  $C_{3-10}$  cycloalkyloxy,  $C_{3-10}$  cycloalkylthio,  $C_{3-10}$  cycloalkenyl,  $C_{7-10}$  cycloalkynyl, or heterocyclic;

$R^6$  is selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl,  $C_{1-18}$  alkoxy,  $C_{1-18}$  alkylthio,  $C_{1-18}$  alkylsulfoxide,  $C_{1-18}$  alkylsulfone,  $C_{1-18}$  halo-alkyl,  $C_{2-18}$  halo-alkenyl,  $C_{2-18}$  halo-alkynyl,  $C_{1-18}$  halo-alkoxy,  $C_{1-18}$  halo-alkylthio,  $C_{3-10}$   
35 cycloalkyl,  $C_{3-10}$  cycloalkenyl,  $C_{7-10}$  cycloalkynyl, halogen, OH, CN, cyanoalkyl, -CO<sub>2</sub> $R^{18}$ , NO<sub>2</sub>, - $NR^7R^8$ ,  $C_{1-18}$  haloalkyl, C(=O) $R^{18}$ , C(=S) $R^{18}$ , SH, aryl, aryloxy,

5 arylthio, arylsulfoxide, arylsulfone, arylsulfonamide, aryl(C<sub>1-18</sub>)alkyl, aryl(C<sub>1-18</sub>)alkyloxy, aryl(C<sub>1-18</sub>)alkylthio, heterocyclic, C<sub>1-18</sub> hydroxyalkyl, where each may be optionally substituted with at least 1 R<sup>19</sup>;

R<sup>7</sup> and R<sup>8</sup> are independently selected from hydrogen, C<sub>1-18</sub> alkyl, C<sub>1-18</sub> alkenyl, aryl, C<sub>3-10</sub> cycloalkyl, C<sub>4-10</sub> cycloalkenyl, heterocyclic, -C(=O)R<sup>12</sup>, -C(=S)R<sup>12</sup>, an  
 10 amino acid residue linked through a carboxyl group thereof, or where R<sup>7</sup> and R<sup>8</sup> together with the nitrogen form a heterocyclic;

R<sup>9</sup> and R<sup>18</sup> are independently selected from hydrogen, OH, C<sub>1-18</sub> alkyl, C<sub>2-18</sub> alkenyl, C<sub>3-10</sub> cycloalkyl, C<sub>4-10</sub> cycloalkenyl, C<sub>1-18</sub> alkoxy, -NR<sup>15</sup>R<sup>16</sup>, aryl, an amino acid residue linked through an amino group of the amino acid, CH<sub>2</sub>OCH(=O)R<sup>9a</sup>, or  
 15 CH<sub>2</sub>OC(=O)OR<sup>9a</sup> where R<sup>9a</sup> is C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>6</sub>-C<sub>20</sub> aryl, C<sub>6</sub>-C<sub>20</sub> alkylaryl or C<sub>6</sub>-C<sub>20</sub> aralkyl;

R<sup>10</sup> and R<sup>11</sup> are independently selected from the group consisting of hydrogen, C<sub>1-18</sub> alkyl, C<sub>2-18</sub> alkenyl, C<sub>3-10</sub> cycloalkyl, C<sub>4-10</sub> cycloalkenyl, aryl, -C(=O)R<sup>12</sup>, heterocyclic, or an amino acid residue;

20 R<sup>12</sup> is selected from the group consisting of hydrogen, C<sub>1-18</sub> alkyl, C<sub>2-18</sub> alkenyl, aryl, C<sub>3-10</sub> cycloalkyl, C<sub>4-10</sub> cycloalkenyl, or an amino acid residue;

R<sup>15</sup> and R<sup>16</sup> are independently selected from hydrogen, C<sub>1-18</sub> alkyl, C<sub>2-18</sub> alkenyl, C<sub>2-18</sub> alkynyl, aryl, C<sub>3-10</sub> cycloalkyl, C<sub>4-10</sub> cycloalkenyl, or an amino acid residue;

25 R<sup>17</sup> is M-Q-, wherein M is a C<sub>3-10</sub> cycloalkyl optionally substituted with 1 or more R<sup>19</sup>, and Q is a bond, or C<sub>1-10</sub> alkyl optionally substituted with 1 or more R<sup>19</sup>;

R<sup>19</sup> is selected from hydrogen, C<sub>1-18</sub> alkyl, C<sub>2-18</sub> alkenyl, C<sub>2-18</sub> alkynyl, C<sub>1-18</sub> alkoxy, C<sub>2-18</sub> alkenyloxy, C<sub>2-18</sub> alkynyloxy, C<sub>1-18</sub> alkylthio, C<sub>3-10</sub> cycloalkyl, C<sub>4-10</sub> cycloalkenyl, C<sub>4-10</sub> cycloalkynyl, halogen, -OH, -CN, cyanoalkyl, -NO<sub>2</sub>, -NR<sup>20</sup>R<sup>21</sup>,  
 30 C<sub>1-18</sub> haloalkyl, C<sub>1-18</sub> haloalkyloxy, -C(=O)R<sup>18</sup>, -C(=O)OR<sup>18</sup>, -OalkenylC(=O)OR<sup>18</sup>, -OalkylC(=O)NR<sup>20</sup>R<sup>21</sup>, -OalkylOC(=O)R<sup>18</sup>, -C(=S)R<sup>18</sup>, SH, -C(=O)N(C<sub>1-6</sub> alkyl), -N(H)S(O)(O)(C<sub>1-6</sub> alkyl), aryl, heterocyclic, C<sub>1-18</sub>alkylsulfone, arylsulfoxide, arylsulfonamide, aryl(C<sub>1-18</sub>)alkyloxy, aryloxy, aryl(C<sub>1-18</sub> alkyl)oxy, arylthio, aryl(C<sub>1-18</sub>)alkylthio or aryl(C<sub>1-18</sub>)alkyl, where each may be optionally substituted with 1 or  
 35 more =O, NR<sup>20</sup>R<sup>21</sup>, CN, C<sub>1-18</sub> alkoxy, heterocyclic, C<sub>1-18</sub> haloalkyl, heterocyclic alkyl, heterocyclic connected to R<sup>17</sup> by alkyl, alkoxyalkoxy or halogen;



5            $R^{20}$  and  $R^{21}$  are independently selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl, aryl,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl,  $-C(=O)R^{12}$ , or  $-C(=S)R^{12}$ ;

$R^{25}$  and  $R^{26}$  are not present, or are independently selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{3-10}$  cycloalkyl, aryl, heterocyclic, where each is optionally independently  
10 substituted with 1 to 4 of  $C_{1-6}$  alkyl,  $C_{1-6}$  alkoxy, halo,  $CH_2OH$ , benzyloxy, and OH;  
and

$R^{27}$  is selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{3-10}$  cycloalkyl,  $(C_{3-10}$  cycloalkyl)-  
 $C_{1-6}$  alkyl, aryl, and aryl  $C_{1-18}$  alkyl, and  
the salts, tautomers, isomers and solvates thereof.

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4.       The compound of claim 1, 2 or 3 wherein  $R^3$  is heterocycle.

5.       The compound of claims 1, 2 or 3 wherein  $YR^1$  is halophenyl.

20 6.       The compound of claim 5 wherein halophenyl is ortho-fluorophenyl.

7.       The compound of claims 1, 2 or 3 wherein  $R^3$  is isoxazolyl substituted with 1  
 $R^{17}$ .

25 8.       The compound of claims 1, 2 or 3 wherein  $R^{17}$  is aryl or an aromatic  
heterocycle which is substituted with 1, 2 or 3  $R^{19}$ .

9.       The compound of claims 1, 2 or 3 wherein  $YR^1$  is none of hydrogen, an  
unsubstituted  $C_{3-10}$  cycloalkyl, or  $C_{1-6}$  alkyl.

30

10.      The compound of claim 9 wherein  $YR^1$  is not hydrogen.

11.      The compound of claims 1, 2 or 3 wherein  $R^{19}$  is trihalomethyl,  
trihalomethoxy, alkoxy or halogen.

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- 5 12. The compound of claims 1, 2 or 3 wherein R<sup>1</sup> is aryl or aromatic heterocycle substituted with 1, 2 or 3 R<sup>6</sup> wherein R<sup>6</sup> is halogen, C<sub>1-18</sub> alkoxy; or C<sub>1-18</sub> haloalkyl.
13. The compound of claims 12 wherein R<sup>1</sup> is phenyl substituted with 1, 2 or 3 halogens.
- 10 14. The compound of claims 1, 2 or 3 wherein halogen is fluoro.
- 15 15. The compound of claims 1, 2 or 3 wherein Y is a single bond, O, C<sub>1-6</sub> alkylene, C<sub>2-6</sub> alkenylene, C<sub>2-6</sub> alkynylene or one of said groups containing 1 to 3 heteroatoms selected from O, S or NR<sup>11</sup>.
16. The compound of claim 15 wherein Y is -O(CH<sub>2</sub>)<sub>1-5</sub>-, -(CH<sub>2</sub>)<sub>1-4</sub>-O-(CH<sub>2</sub>)<sub>1-4</sub>-, -S-(CH<sub>2</sub>)<sub>1-5</sub>-, -(CH<sub>2</sub>)<sub>1-4</sub>-S-(CH<sub>2</sub>)<sub>1-4</sub>-, -NR<sup>11</sup>-(CH<sub>2</sub>)<sub>1-5</sub>-, -(CH<sub>2</sub>)<sub>1-4</sub>-NR<sup>11</sup>-(CH<sub>2</sub>)<sub>1-4</sub> or C<sub>3-10</sub> cycloalkylidene.
- 20 17. The compound of claim 15 wherein Y is -OCH<sub>2</sub>-, -CH<sub>2</sub>O-, C<sub>1-2</sub> alkylene, C<sub>2-3</sub> alkenylene, C<sub>2-3</sub> alkynylene, O or a bond.
18. The compound of claim 15 wherein Y is a bond.
- 25 19. The compound of claims 1, 2 or 3 wherein YR<sup>1</sup> is not any one of H, an unsubstituted C<sub>3-10</sub> cycloalkyl or C<sub>1</sub>-C<sub>6</sub> alkyl.
20. The compound of claims 1, 2 or 3 wherein YR<sup>1</sup> is not H.
- 30 21. The compound of claims 1, 2 or 3 wherein YR<sup>1</sup> is halo or halomethyl-substituted phenyl.
22. The compound of claims 1, 2 or 3 wherein halo or halomethyl are ortho or meta.
- 35

- 5 23. The compound of claims 1, 2 or 3 wherein X is selected from the group consisting of alkylene, alkynylene or alkenylene and said hydrocarbons having an intrachain N, O or S heteroatom.
24. The compound of claims 1, 2 or 3 wherein X is alkyl.
- 10 25. The compound of claim 23 wherein X is selected from the group consisting of -CH<sub>2</sub>-, -CH(CH<sub>3</sub>)-, -CH<sub>2</sub>-CH<sub>2</sub>-, -CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-, -CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-, -(CH<sub>2</sub>)<sub>2-4</sub>-O-(CH<sub>2</sub>)<sub>2-4</sub>-, -(CH<sub>2</sub>)<sub>2-4</sub>-S-(CH<sub>2</sub>)<sub>2-4</sub>-, -(CH<sub>2</sub>)<sub>2-4</sub>-NR<sup>10</sup>-(CH<sub>2</sub>)<sub>2-4</sub>-, C<sub>3-10</sub> cycloalkylidene, C<sub>2-6</sub> alkenylene and C<sub>2-6</sub> alkynylene.
- 15 26. The compound of claims 1, 2 or 3 wherein X is methylene.
27. The compound of claims 1, 2 or 3 wherein R<sup>3</sup> is aryl or a heterocycle substituted with 0 to 3 R<sup>17</sup>.
- 20 28. The compound of claim 27 wherein the heterocycle is an aromatic heterocycle.
29. The compound of claim 28 wherein the heterocycle contains 1, 2 or 3 N, S or
- 25 O atoms in the ring, is linked to X through a ring carbon atom and contains 4 to 6 total ring atoms.
30. The compound of claims 1, 2 or 3 wherein R<sup>3</sup> is isoxazolyl substituted with 1 to 3 R<sup>17</sup>.
- 30 31. The compound of claims 1, 2 or 3 wherein R<sup>17</sup> is aryl or a heterocycle further substituted with 1 to 3 R<sup>19</sup>.
32. The compound of claims 1 or 3 wherein M is aryl or aromatic heterocycle.
- 35

- 5 33. The compound of claims 1 or 3 wherein Q contains 0 to 20 atoms selected from C, O, S, N and H.
34. The compound of claims 1 or 3 wherein M is a cyclic group selected from R<sup>17</sup>.
- 10 35. The compound of claim 2 wherein R<sup>17</sup> is selected from the group consisting of C<sub>3-10</sub> cycloalkyl, C<sub>3-10</sub> cycloalkenyl, C<sub>7-10</sub> cycloalkynyl, halogen, aryl, aryloxy, arylthio, arylsulfoxide, arylsulfone, arylsulfonamide, arylalkyl; arylalkyloxy; arylalkylthio; heterocycle; C<sub>1-18</sub> hydroxyalkyl, each of said C<sub>3-10</sub> cycloalkyl, C<sub>3-10</sub> cycloalkenyl, C<sub>7-10</sub> cycloalkynyl, halogen, aryl, aryloxy, arylthio, arylsulfoxide, 15 arylsulfone, arylsulfonamide, arylalkyl; arylalkyloxy; arylalkylthio; heterocycle; and C<sub>1-18</sub> hydroxyalkyl is unsubstituted or is substituted 1 or more R<sup>19</sup>.
36. The compound of claim 2 wherein R<sup>17</sup> is selected from the group consisting of aryl and heterocycle, and where said aryl or heterocycle is optionally substituted 20 with 1 or more R<sup>19</sup>.
37. The compound of claims 1, 2 or 3 wherein R<sup>9</sup> and R<sup>18</sup> are H, OH or alkyl.
38. The compound of claims 1, 2 or 3 wherein R<sup>5</sup> is H.
- 25 39. The compound of claims 1, 2 or 3 wherein R<sup>6</sup> is halogen.
40. The compound of claims 1, 2 or 3 wherein R<sup>7</sup>, R<sup>8</sup>, R<sup>10</sup>, R<sup>11</sup>, R<sup>15</sup>, R<sup>16</sup>, R<sup>20</sup>, and R<sup>21</sup> are independently H or C<sub>1-18</sub> alkyl.
- 30 41. The compound of claims 1, 2 or 3 wherein R<sup>12</sup> is OH or alkyl.
42. The compound of claims 1, 2 or 3 wherein R<sup>19</sup> is selected from the group consisting of H; C<sub>1-18</sub> alkyl; C<sub>2-18</sub> alkenyl; C<sub>2-18</sub> alkynyl; C<sub>1-18</sub> alkoxy; alkenyloxy; 35 alkynyloxy; C<sub>1-18</sub> alkylthio; C<sub>3-10</sub> cycloalkyl; C<sub>4-10</sub> cycloalkenyl; C<sub>4-10</sub> cycloalkynyl; halogen; OH; CN; cyanoalkyl; NO<sub>2</sub>; NR<sup>20</sup>R<sup>21</sup>; haloalkyl; haloalkyloxy; C(=O)R<sup>18</sup>;

- 5 C(=O)OR<sup>18</sup>; OalkenylC(=O)OR<sup>18</sup>; -OalkylC(=O)NR<sup>20</sup>R<sup>21</sup>; aryl; heterocycle; -  
 OalkylOC(=O)R<sup>18</sup>; C(=O)N(C<sub>1-6</sub> alkyl), N(H)S(O)(O)(C<sub>1-6</sub> alkyl); arylalkyloxy;  
 aryloxy; arylalkyloxy; and arylalkyl; each of which is unsubstituted or substituted  
 with 1 or more =O; NR<sup>20</sup>R<sup>21</sup>; CN; alkoxy; heterocycle; haloalkyl- or alkyl-  
 substituted heterocycle; and heterocycle linked to R<sup>17</sup> by alkyl; alkoxyalkoxy or  
 10 halogen.

43. The compound of claim 42 wherein R<sup>19</sup> is independently selected from the  
 group consisting of halogen, N(R<sup>20</sup> R<sup>21</sup>), alkoxy, halo-substituted alkyl and halo-  
 substituted alkoxy.

15

44. The compound of claims 1, 2 or 3 wherein R<sup>25</sup> and R<sup>26</sup> are not present.

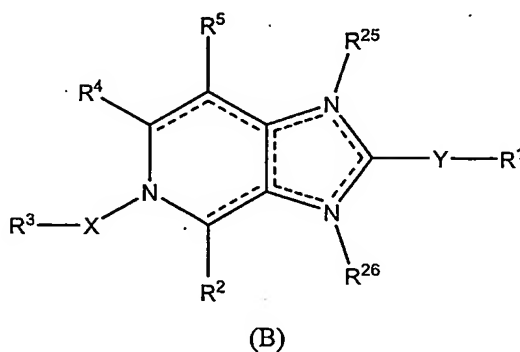
45. The compound of claims 1, 2 or 3 which is not substituted at R<sup>25</sup> but is  
 substituted at R<sup>26</sup>, and either R<sup>2</sup> or R<sup>4</sup> is selected from (=O), (=S), and (=NR<sup>27</sup>).

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46. The compound of claims 1, 2 or 3 wherein haloalkyl or haloalkyloxy is -CF<sub>3</sub>  
 or -OCF<sub>3</sub>.

47. A composition comprising a pharmaceutically acceptable excipient and a  
 25 compound of claims 1, 2 or 3.

48. A compound having the general formula (B),



30

wherein:

5 the dotted lines represent an optional double bond, provided that no two double bonds are adjacent to one another, and that the dotted lines represent at least 3, optionally 4 double bonds;

$R^1$  is selected from hydrogen, aryl, heterocyclic,  $C_{1-10}$  alkoxy,  $C_{1-10}$  thioalkyl,  $C_{1-10}$  alkyl-amino,  $C_{1-10}$  dialkyl-amino,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl, and  $C_{4-10}$  cycloalkynyl, wherein each are optionally substituted with 1 or more  $R^6$ ;

Y is selected from single bond, O,  $S(O)_m$ ,  $NR^{11}$ , or  $C_{1-10}$  alkylene,  $C_{2-10}$  alkenylene,  $C_{2-10}$  alkynylene, wherein each may optionally include 1 to 3 heteroatoms selected from O, S or N;

15  $R^2$  and  $R^4$  are independently selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl,  $C_{1-18}$  alkoxy,  $C_{1-18}$  alkylthio, halogen, -OH, -CN, -NO<sub>2</sub>, -NR<sup>7</sup>R<sup>8</sup>, haloalkyloxy, haloalkyl, -C(=O)R<sup>9</sup>, -C(=S)R<sup>9</sup>, SH, aryl, aryloxy, arylthio, arylalkyl,  $C_{1-18}$  hydroxyalkyl,  $C_{3-10}$  cycloalkyl,  $C_{3-10}$  cycloalkyloxy,  $C_{3-10}$  cycloalkylthio,  $C_{3-10}$  cycloalkenyl,  $C_{7-10}$  cycloalkynyl, or heterocyclic, provided that when one of  $R^{25}$  or  $R^{26}$  is present, then either  $R^2$  or  $R^4$  is selected from (=O), (=S), and =NR<sup>27</sup>;

X is selected from  $C_{1-10}$  alkylene,  $C_{2-10}$  alkenylene or  $C_{2-10}$  alkynylene, where each may include one or more heteroatoms selected from O, S, or N, provided any such heteroatom is not adjacent to the N in the ring;

m is any integer from 0 to 2;

25  $R^3$  is selected from aryl, aryloxy, arylthio, cycloalkyl, cycloalkenyl, cycloalkynyl, aryl-N(R<sup>10</sup>)-, or heterocyclic, where each said substituent may be optionally substituted with at least one  $R^{17}$ , provided that for cycloalkenyl the double bond is not adjacent to a nitrogen, and provided  $R^3$  M-Q- is not biphenyl;

30  $R^5$  is selected from hydrogen;  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl,  $C_{1-18}$  alkoxy,  $C_{1-18}$  alkylthio, halogen, -OH, -CN, -NO<sub>2</sub>, -NR<sup>7</sup>R<sup>8</sup>, haloalkyloxy, haloalkyl, -C(=O)R<sup>9</sup>, -C(=O)OR<sup>9</sup>, -C(=S)R<sup>9</sup>, SH, aryl, aryloxy, arylthio, arylalkyl,  $C_{1-18}$  hydroxyalkyl,  $C_{3-10}$  cycloalkyl,  $C_{3-10}$  cycloalkyloxy,  $C_{3-10}$  cycloalkylthio,  $C_{3-10}$  cycloalkenyl,  $C_{7-10}$  cycloalkynyl, or heterocyclic;

35  $R^6$  is selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl,  $C_{1-18}$  alkoxy,  $C_{1-18}$  alkylthio,  $C_{1-18}$  alkylsulfoxide,  $C_{1-18}$  alkylsulfone,  $C_{1-18}$  halo-alkyl,  $C_{2-18}$  halo-alkenyl,  $C_{2-18}$  halo-alkynyl,  $C_{1-18}$  halo-alkoxy,  $C_{1-18}$  halo-alkylthio,  $C_{3-10}$

5 cycloalkyl, C<sub>3-10</sub> cycloalkenyl, C<sub>7-10</sub> cycloalkynyl, halogen, OH, CN, cyanoalkyl, -CO<sub>2</sub>R<sup>18</sup>, NO<sub>2</sub>, -NR<sup>7</sup>R<sup>8</sup>, C<sub>1-18</sub> haloalkyl, C(=O)R<sup>18</sup>, C(=S)R<sup>18</sup>, SH, aryl, aryloxy, arylthio, arylsulfoxide, arylsulfone, arylsulfonamide, aryl(C<sub>1-18</sub>)alkyl, aryl(C<sub>1-18</sub>)alkyloxy, aryl(C<sub>1-18</sub>)alkylthio, heterocyclic, C<sub>1-18</sub> hydroxyalkyl, where each may be optionally substituted with at least 1 R<sup>19</sup>;

10 R<sup>7</sup> and R<sup>8</sup> are independently selected from hydrogen, C<sub>1-18</sub> alkyl, C<sub>1-18</sub> alkenyl, aryl, C<sub>3-10</sub> cycloalkyl, C<sub>4-10</sub> cycloalkenyl, heterocyclic, -C(=O)R<sup>12</sup>, -C(=S)R<sup>12</sup>, an amino acid residue linked through a carboxyl group thereof, or where R<sup>7</sup> and R<sup>8</sup> together with the nitrogen form a heterocyclic;

R<sup>9</sup> and R<sup>18</sup> are independently selected from hydrogen, OH, C<sub>1-18</sub> alkyl, C<sub>2-18</sub> alkenyl, C<sub>3-10</sub> cycloalkyl, C<sub>4-10</sub> cycloalkenyl, C<sub>1-18</sub> alkoxy, -NR<sup>15</sup>R<sup>16</sup>, aryl, an amino acid residue linked through an amino group of the amino acid, CH<sub>2</sub>OCH(=O)R<sup>9a</sup>, or CH<sub>2</sub>OC(=O)OR<sup>9a</sup> where R<sup>9a</sup> is C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>6</sub>-C<sub>20</sub> aryl, C<sub>6</sub>-C<sub>20</sub> alkylaryl or C<sub>6</sub>-C<sub>20</sub> aralkyl;

R<sup>10</sup> and R<sup>11</sup> are independently selected from the group consisting of hydrogen, C<sub>1-18</sub> alkyl, C<sub>2-18</sub> alkenyl, C<sub>3-10</sub> cycloalkyl, C<sub>4-10</sub> cycloalkenyl, aryl, -C(=O)R<sup>12</sup>, heterocyclic, or an amino acid residue;

R<sup>12</sup> is selected from the group consisting of hydrogen, C<sub>1-18</sub> alkyl, C<sub>2-18</sub> alkenyl, aryl, C<sub>3-10</sub> cycloalkyl, C<sub>4-10</sub> cycloalkenyl, or an amino acid residue;

R<sup>15</sup> and R<sup>16</sup> are independently selected from hydrogen, C<sub>1-18</sub> alkyl, C<sub>2-18</sub> alkenyl, C<sub>2-18</sub> alkynyl, aryl, C<sub>3-10</sub> cycloalkyl, C<sub>4-10</sub> cycloalkenyl, or an amino acid residue;

R<sup>17</sup> is independently M-Q- wherein M is a ring optionally substituted with 1 or more R<sup>19</sup>, and Q is a bond or a linking group connecting M to R<sup>3</sup> having 1 to 10 atoms and optionally substituted with 1 or more R<sup>19</sup>;

30 R<sup>19</sup> is selected from hydrogen, C<sub>1-18</sub> alkyl, C<sub>2-18</sub> alkenyl, C<sub>2-18</sub> alkynyl, C<sub>1-18</sub> alkoxy, C<sub>2-18</sub> alkenyloxy, C<sub>2-18</sub> alkynyloxy, C<sub>1-18</sub> alkylthio, C<sub>3-10</sub> cycloalkyl, C<sub>4-10</sub> cycloalkenyl, C<sub>4-10</sub> cycloalkynyl, halogen, -OH, -CN, cyanoalkyl, -NO<sub>2</sub>, -NR<sup>20</sup>R<sup>21</sup>, C<sub>1-18</sub> haloalkyl, C<sub>1-18</sub> haloalkyloxy, -C(=O)R<sup>18</sup>, -C(=O)OR<sup>18</sup>, -OalkenylC(=O)OR<sup>18</sup>, -OalkylC(=O)NR<sup>20</sup>R<sup>21</sup>, -Oalkyloc(=O)R<sup>18</sup>, -C(=S)R<sup>18</sup>, SH, -C(=O)N(C<sub>1-6</sub> alkyl),  
35 -N(H)S(O)(O)(C<sub>1-6</sub> alkyl), aryl, heterocyclic, C<sub>1-18</sub>alkylsulfone, arylsulfoxide, arylsulfonamide, aryl(C<sub>1-18</sub>)alkyloxy, aryloxy, aryl(C<sub>1-18</sub> alkyl)oxy, arylthio, aryl(C<sub>1-</sub>

5   <sub>18</sub>)alkylthio or aryl(C<sub>1-18</sub>)alkyl, where each may be optionally substituted with 1 or more =O, NR<sup>20</sup>R<sup>21</sup>, CN, C<sub>1-18</sub> alkoxy, heterocyclic, C<sub>1-18</sub> haloalkyl, heterocyclic alkyl, heterocyclic connected to R<sup>17</sup> by alkyl, alkoxyalkoxy or halogen;

          R<sup>20</sup> and R<sup>21</sup> are independently selected from hydrogen, C<sub>1-18</sub> alkyl, C<sub>2-18</sub> alkenyl, C<sub>2-18</sub> alkynyl, aryl, C<sub>3-10</sub> cycloalkyl, C<sub>4-10</sub> cycloalkenyl, -C(=O)R<sup>12</sup>, or  
10   -C(=S)R<sup>12</sup>;

          R<sup>27</sup> is selected from hydrogen, C<sub>1-18</sub> alkyl, C<sub>3-10</sub> cycloalkyl, (C<sub>3-10</sub> cycloalkyl)-C<sub>1-6</sub> alkyl, aryl, and aryl C<sub>1-18</sub> alkyl, and  
          salts, tautomers, isomers and solvates thereof.

49.   The compound of claim 48 wherein Y is a single bond, and R<sup>1</sup> is aryl.  
15

50.   The compound of claim 48 wherein X is C<sub>1</sub>-C<sub>10</sub> alkylene, C<sub>2-10</sub> alkenylene or C<sub>2-10</sub> alkynylene.

51.   The compound of claim 48 wherein R<sup>3</sup> is heterocyclic.  
20

52.   The compound of claim 48 wherein R<sup>3</sup> is heterocyclic substituted with R<sup>17</sup> where Q is a bond and M is aryl.

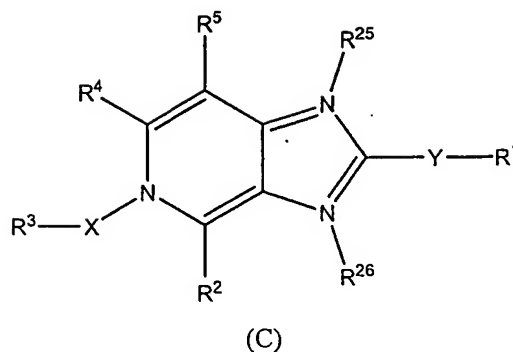
53.   The compound of claim 48 wherein Y is a single bond, and R<sup>1</sup> is phenyl.  
25

54.   The compound of claim 48 wherein R<sup>3</sup> is isoxazole substituted with R<sup>17</sup> where Q is a bond and M is aryl.

~~55.~~ 55.   The compound of claim 48 wherein R<sup>3</sup> is isoxazole substituted with R<sup>17</sup> where  
30   Q is a bond and M is phenyl.

56.   A compound having the general formula (C),





5

wherein:

the dotted lines represent an optional double bond, provided that no two double bonds are adjacent to one another, and that the dotted lines represent at least 3,  
10 optionally 4 double bonds;

$R^1$  is selected from hydrogen, aryl, heterocyclic,  $C_1$ - $C_{10}$  alkoxy,  $C_1$ - $C_{10}$  thioalkyl,  $C_1$ - $C_{10}$  alkyl-amino,  $C_1$ - $C_{10}$  dialkyl-amino,  $C_3$ - $C_{10}$  cycloalkyl,  $C_4$ - $C_{10}$  cycloalkenyl, and  $C_4$ - $C_{10}$  cycloalkynyl, wherein each are optionally substituted with 1 or more  $R^6$ ;

15  $Y$  is selected from single bond, O,  $S(O)_m$ ,  $NR^{11}$ , or  $C_1$ - $C_{10}$  alkylene,  $C_2$ - $C_{10}$  alkenylene,  $C_2$ - $C_{10}$  alkynylene, wherein each may optionally include 1 to 3 heteroatoms selected from O, S or N;

$R^2$  and  $R^4$  are independently selected from hydrogen,  $C_1$ - $C_{18}$  alkyl,  $C_2$ - $C_{18}$  alkenyl,  $C_2$ - $C_{18}$  alkynyl,  $C_1$ - $C_{18}$  alkoxy,  $C_1$ - $C_{18}$  alkylthio, halogen, -OH, -CN, -NO<sub>2</sub>, -NR<sup>7</sup>R<sup>8</sup>,  
20 haloalkyloxy, haloalkyl, -C(=O)R<sup>9</sup>, -C(=S)R<sup>9</sup>, SH, aryl, aryloxy, arylthio, arylalkyl,  $C_1$ - $C_{18}$  hydroxyalkyl,  $C_3$ - $C_{10}$  cycloalkyl,  $C_3$ - $C_{10}$  cycloalkyloxy,  $C_3$ - $C_{10}$  cycloalkylthio,  $C_3$ - $C_{10}$  cycloalkenyl,  $C_7$ - $C_{10}$  cycloalkynyl, or heterocyclic, provided that when one of  $R^{25}$  or  $R^{26}$  is present, then either  $R^2$  or  $R^4$  is selected from (=O), (=S), and =NR<sup>27</sup>;

$X$  is selected from  $C_1$ - $C_{10}$  alkylene,  $C_2$ - $C_{10}$  alkenylene or  $C_2$ - $C_{10}$  alkynylene, where  
25 each may include one or more heteroatoms selected from O, S, or N, provided any such heteroatom is not adjacent to the N in the ring;

$m$  is any integer from 0 to 2;

$R^3$  is selected from aryl, aryloxy, arylthio, cycloalkyl, cycloalkenyl, cycloalkynyl, aryl-N( $R^{10}$ )-, or heterocyclic, where each said substituent may be  
30 optionally substituted with at least one  $R^{17}$ , provided that for cycloalkenyl the double bond is not adjacent to a nitrogen, and provided  $R^3$  M-Q- is not biphenyl;

- 5  $R^5$  is selected from hydrogen;  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl,  $C_{1-18}$  alkoxy,  $C_{1-18}$  alkylthio, halogen, -OH, -CN, -NO<sub>2</sub>, -NR<sup>7</sup>R<sup>8</sup>, haloalkyloxy, haloalkyl, -C(=O)R<sup>9</sup>, -C(=O)OR<sup>9</sup>, -C(=S)R<sup>9</sup>, SH, aryl, aryloxy, arylthio, arylalkyl,  $C_{1-18}$  hydroxyalkyl,  $C_{3-10}$  cycloalkyl,  $C_{3-10}$  cycloalkyloxy,  $C_{3-10}$  cycloalkylthio,  $C_{3-10}$  cycloalkenyl,  $C_{7-10}$  cycloalkynyl, or heterocyclic;
- 10  $R^6$  is selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl,  $C_{1-18}$  alkoxy,  $C_{1-18}$  alkylthio,  $C_{1-18}$  alkylsulfoxide,  $C_{1-18}$  alkylsulfone,  $C_{1-18}$  halo-alkyl,  $C_{2-18}$  halo-alkenyl,  $C_{2-18}$  halo-alkynyl,  $C_{1-18}$  halo-alkoxy,  $C_{1-18}$  halo-alkylthio,  $C_{3-10}$  cycloalkyl,  $C_{3-10}$  cycloalkenyl,  $C_{7-10}$  cycloalkynyl, halogen, OH, CN, cyanoalkyl, -CO<sub>2</sub>R<sup>18</sup>, NO<sub>2</sub>, -NR<sup>7</sup>R<sup>8</sup>,  $C_{1-18}$  haloalkyl, C(=O)R<sup>18</sup>, C(=S)R<sup>18</sup>, SH, aryl, aryloxy, 15 arylthio, arylsulfoxide, arylsulfone, arylsulfonamide, aryl( $C_{1-18}$ )alkyl, aryl( $C_{1-18}$ )alkyloxy, aryl( $C_{1-18}$ )alkylthio, heterocyclic,  $C_{1-18}$  hydroxyalkyl, where each may be optionally substituted with at least 1 R<sup>19</sup>;
- $R^7$  and  $R^8$  are independently selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{1-18}$  alkenyl, aryl,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl, heterocyclic, -C(=O)R<sup>12</sup>, -C(=S)R<sup>12</sup>, an 20 amino acid residue linked through a carboxyl group thereof, or where  $R^7$  and  $R^8$  together with the nitrogen form a heterocyclic;
- $R^9$  and  $R^{18}$  are independently selected from hydrogen, OH,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl,  $C_{1-18}$  alkoxy, -NR<sup>15</sup>R<sup>16</sup>, aryl, an amino acid residue linked through an amino group of the amino acid, CH<sub>2</sub>OCH(=O)R<sup>9a</sup>, or 25 CH<sub>2</sub>OC(=O)OR<sup>9a</sup> where R<sup>9a</sup> is  $C_1$ - $C_{12}$  alkyl,  $C_6$ - $C_{20}$  aryl,  $C_6$ - $C_{20}$  alkylaryl or  $C_6$ - $C_{20}$  aralkyl;
- $R^{10}$  and  $R^{11}$  are independently selected from the group consisting of hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl, aryl, -C(=O)R<sup>12</sup>, 30 heterocyclic, or an amino acid residue;
- $R^{12}$  is selected from the group consisting of hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl, aryl,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl, or an amino acid residue;
- $R^{15}$  and  $R^{16}$  are independently selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl, aryl,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl, or an amino acid residue;

5  $R^{17}$  is independently M-Q- wherein M is a ring optionally substituted with 1 or more  $R^{19}$ , and Q is a bond or a linking group connecting M to  $R^3$  having 1 to 10 atoms and optionally substituted with 1 or more  $R^{19}$ ;

$R^{19}$  is selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl,  $C_{1-18}$  alkoxy,  $C_{2-18}$  alkenyloxy,  $C_{2-18}$  alkynyloxy,  $C_{1-18}$  alkylthio,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl,  $C_{4-10}$  cycloalkynyl, halogen, -OH, -CN, cyanoalkyl, -NO<sub>2</sub>, -NR<sup>20</sup>R<sup>21</sup>,  $C_{1-18}$  haloalkyl,  $C_{1-18}$  haloalkyloxy, -C(=O)R<sup>18</sup>, -C(=O)OR<sup>18</sup>, -OalkenylC(=O)OR<sup>18</sup>, -OalkylC(=O)NR<sup>20</sup>R<sup>21</sup>, -OalkylOC(=O)R<sup>18</sup>, -C(=S)R<sup>18</sup>, SH, -C(=O)N(C<sub>1-6</sub> alkyl), -N(H)S(O)(O)(C<sub>1-6</sub> alkyl), aryl, heterocyclic,  $C_{1-18}$  alkylsulfone, arylsulfoxide, arylsulfonamide, aryl(C<sub>1-18</sub>)alkyloxy, aryloxy, aryl(C<sub>1-18</sub> alkyl)oxy, arylthio, aryl(C<sub>1-18</sub>)alkylthio or aryl(C<sub>1-18</sub>)alkyl, where each may be optionally substituted with 1 or more =O, NR<sup>20</sup>R<sup>21</sup>, CN,  $C_{1-18}$  alkoxy, heterocyclic,  $C_{1-18}$  haloalkyl, heterocyclic alkyl, heterocyclic connected to  $R^{17}$  by alkyl, alkoxyalkoxy or halogen;

$R^{20}$  and  $R^{21}$  are independently selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{2-18}$  alkenyl,  $C_{2-18}$  alkynyl, aryl,  $C_{3-10}$  cycloalkyl,  $C_{4-10}$  cycloalkenyl, -C(=O)R<sup>12</sup>, or -C(=S)R<sup>12</sup>;

$R^{27}$  is selected from hydrogen,  $C_{1-18}$  alkyl,  $C_{3-10}$  cycloalkyl, (C<sub>3-10</sub> cycloalkyl)-C<sub>1-6</sub> alkyl, aryl, and aryl C<sub>1-18</sub> alkyl, and salts, tautomers, isomers and solvates thereof.

25 57. The compound of claim 56 wherein Y is a single bond, and  $R^1$  is aryl.

58. The compound of claim 56 wherein X is  $C_1$ - $C_{10}$  alkylene,  $C_{2-10}$  alkenylene or  $C_{2-10}$  alkynylene.

30 59. The compound of claim 56 wherein  $R^3$  is heterocyclic.

60. The compound of claim 56 wherein  $R^3$  is heterocyclic substituted with  $R^{17}$  where Q is a bond and M is aryl.

35 61. The compound of claim 56 wherein Y is a single bond, and  $R^1$  is phenyl.

5 62. The compound of claim 56 wherein R<sup>3</sup> is isoxazole substituted with R<sup>17</sup> where Q is a bond and M is aryl.

63. The compound of claim 56 wherein R<sup>3</sup> is isoxazole substituted with R<sup>17</sup> where Q is a bond and M is phenyl.

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64. A method comprising administering to a subject in need of treatment or prophylaxis of a viral infection an antivirally effective amount of a compound of claims 1, 2, 3, 48 or 56.

15 65. The method of claim 64, wherein the viral infection is an infection of a hepatitis-C virus.

66. The method of claim 65 further comprising administering at least one additional antiviral therapy to the subject.

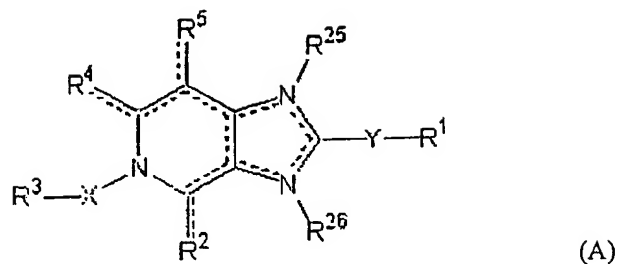
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67. The method of claim 66 wherein the additional therapy is selected from the group consisting of an interferon alpha and ribavirin.

25 68. A method of screening antiviral compounds which comprises providing a compound of claims 1, 2, 3, 48 or 56 and determining the anti-viral activity of said compound.

69. The method of claim 68 wherein said anti-viral activity is determined by the activity of said compound against one or more viruses belonging to the family of the  
30 Flaviviridae and/or of the Picornaviridae.

70. A method for assaying the structure-activity of analogues of formula (A) compounds



wherein the substituents are defined in WO 2004/005286, comprising

- (c) preparing a compound of formula (A) in which at least one substituent is not disclosed by WO 2004/005286; and
- 10 (d) determining the anti-HCV activity of the compound of step (a).

71. The method of claim 70 wherein the substituent is located at  $R^3$ ,  $R^2$ ,  $R^4$ ,  $R^{26}$  and/or  $R^5$ .

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